

## “A STUDY TO ASSESS THE KNOWLEDGE OF STAFF NURSES REGARDING SELECTED EMERGENCY DRUGS”

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**Abstract:** *In all, 100 staff nurses from Hospital, were interviewed to assess knowledge regarding selected emergency drugs among staff nurses. **Methodology** - A non experimental descriptive survey method exploratory in nature was conducted using a semi structured questionnaire which includes demographic data, multiple choice questions assessing knowledge about action, route, side effects, nurses responsibility regarding selected emergency drugs. **Findings**- Majority of staff nurses were able to answer about nurses responsibility but have average knowledge about the action and side effects. **Conclusion**- Study found that overall interpretation of knowledge in relation to nursing responsibility of medication administration shows 70% staff nurses have knowledge. Hence, continuing Education has to be increased for poor knowledge regarding emergency drugs which will prevent occupational hazard.*

**Keywords:** KNOWLEDGE, ASSESS, EMERGENCY MEDICATION, STAFF NURS

### 1.INTRODUCTION

Emergency drugs are defined as drugs which require immediate administration within minutes post or during a medical emergency. Medicines which have the potential to sustain life and/or prevent further complications. Some of the emergency drugs are Adrenaline, Atropine, Aminophylline, Amikacin, Calcium Gluconate, Dopamine Hydrochloride, Dynapar, Potassium Chloride, Lasix, Pantoprazole, Sodium Bicarbonate etc.

**IMPORTANCE OF EMERGENCY MEDICATION ADMINISTRATION:** To ensure safe medication administration the nurse should be aware of a nursing standard called six rights of medication administration, report all medication errors that do and do not harm patients and know the medication before administering.

When administering medications, nurses are accountable for knowing why the medication is being used, what possible side effects are to be monitored.

## 2. NEED FOR STUDY

To administer medication safely to clients certain cognitive skills and knowledge regarding medications are essential. The nurse accepts full accountability and responsibility for all actions that are taken this includes the administration of medication. Demonstrating accountability and acting responsibly in professional practice occur.

Health care professionals and government agencies have openly and heatedly discussed the topic of medication error in recent years in an attempt to improve patient care quality and safety. In 1999, the US Institute of medicine alarmed health care professionals by publishing a book entitled "To err is human – Building a safer health system." It claimed that one million medical mishaps happened each year, causing 100,000 patient deaths. Deaths caused by the medical errors were between 44,000 and 98,000.

The Audit Commission (2001) of the National Health Services in the UK estimated that medication errors accounted for about 20% of deaths from all adverse events. The Department of Health (DOH) claims that every 400 people die or seriously injured in adverse events. The National Health Service spends around 400 million pounds every year to settle clinical negligence claims (DOH, 2000).

In Taiwan, The Taiwan Joint Commission on Hospital Accreditation reported that, deaths because of medical adverse events were estimated to be 6000-20,000 yearly, medication errors were the leading errors (22.2%) among the 13 types of medical negligence. From 2004-2009, the priority among the eight goals on the hospital safety was avoiding medication errors and improving patient safety is a major concern and a global issue related to the quality and safety of patient care.

So the researcher felt the need of conducting research on knowledge of staff nurses regarding selected emergency drugs

## 3. REVIEW OF LITERATURE:-

Review of literature refers to an extensive exhaustive and systematic examination of publication relevant to research. It is a key step in research process. The review is divided into following headings

### 3.1 Reviews related to nurses knowledge on administration of drugs

A descriptive study was conducted (2008) ,**"to investigate nurses' views on the factors contributing to medication errors in the hope of facilitating improvements to medication administration processes."** A semi-structured questionnaire consisting of three parts was developed. Sample included 72 female nurses who responded, 55 (76.4%) believed more than one factor contributed to medication errors. 'Personal neglect' (86.1%), 'heavy workload' (37.5%) and 'new staff' (37.5%) were the three main factors in the eight categories. 'Need to solve other problems while administering drugs, advanced drug preparation without rechecking,' and 'new graduate' were the top three of the 34 conditions. Medical wards (36.1%) and intensive care units (33.3%) were the two most error-prone places. The errors common to the two were 'wrong dose' (36.1%) and 'wrong drug' (26.4%). Antibiotics (38.9%) were the most commonly misadministered drugs. They concluded that although the majority of respondents considered nurse's personal neglect as the leading factor in medication errors, analysis indicated that additional factors involving the health care system, patients' conditions and doctors' prescriptions all contributed to administration error.

### 3.2 Reviews related to other health care professionals knowledge on administration of emergency drugs

A study was conducted by Hsaio, (2009), “**a study about the development and validation of an instrument to measure nurse's knowledge of high-alert medications and to analyse known administration errors.**” A cross-sectional study was conducted in 2006 in Taiwan using a questionnaire. Snowball sampling and descriptive statistics were used. A total of 305 nurses participated, giving a 79.2% response rate (305/385). The correct answer rate for section 1 was 56.5%, and nurse's working experience contributed to scores. Only 3.6% of nurses considered themselves to have sufficient knowledge about high-alert medications, 84.6% hoped to gain more training, and the leading obstacle reported was insufficient knowledge (75.4%). A total of 184 known administration errors were identified, including wrong drug (33.7%) and wrong dose (32.6%). Evidence-based results strongly suggested that nurses have insufficient knowledge about high-alert medications and could benefit from additional education, particularly associated with intravenous bolus administration of high-alert medications.

### 3.3 Reviews related to the comparative study on emergency drugs

A comparative study was conducted (2005) in selected colleges in Bangalore to assess the knowledge of final year Basic B.Sc. nursing students on pediatric emergency drugs and the calculation of drug doses and to compare their knowledge scores of students with and without own hospital and the total sample size for the study was 100 final year Basic B.Sc. Nursing students with 50 students from colleges of nursing with own hospital and 50 students from colleges of nursing without own hospital. The result showed that the mean knowledge score was 23.13 for a total of 50 statements and a maximum score of 50. The mean knowledge of the respondents was 46.26 percent, In relation the knowledge of the various aspects of Pediatric emergency drugs and the calculation of drug doses, the mean knowledge of the respondents was above 50% in the categories such as action of drugs, side effects and nurse's responsibility whereas the mean knowledge of the respondents in the other categories was below 50 percent.

### 3.4 Reviews related to prevention of medication error

An observational survey was conducted (2008) on pediatric health care professionals, “**to identify educational interventions to reduce dose calculation errors and the literature review identified one paper describing an in-service test for medical trainees.**” 319/559 questionnaires were returned (57%). 34 mentioned educational interventions, 15 centers provided further information on teaching and assessment methods and 13 provided presentations, usually at doctors' induction. Many interventions had a similar format, including describing differences from adult prescribing, common errors and how to calculate doses. Pediatric clinical pharmacists play a significant role in delivering training and competency assessment. It was concluded that teaching of pediatric prescribing takes place mostly in the format of lectures during doctors' induction. Few centers assess competency and no validated tool exists. There has been little evaluation of the impact of teaching on competency to prescribe.

## 4. RESEARCH METHODOLOGY

Research methodology refers to the strategies by the investigators in planning and constructing research process.

### a) RESEARCH APPROACH

A descriptive method was used to assess the knowledge selected emergency drugs among staff nurses.

#### b) RESEARCH DESIGN

A Non-Experimental Survey Method which is of exploratory nature was adopted for the study.

#### c) SETTING OF STUDY

This is multispecialty hospital with 1500 beds.

#### d) POPULATION OF THE STUDY

Target Population: The target population is all the staff nurses of Navi Mumbai.

Accessible Population: The accessible population is staff nurses of all departments of Hospital.

#### e) SAMPLING

Sampling Technique: Sampling technique used in this study is Probability sampling and simple random sampling.

Sample size: The sample consists of 100 staff nurses working in all departments of Hospital.

#### Inclusion criteria:

- a) Sample is selected only from Hospital.
- b) Staff nurses who have completed ANM, GNM & DEGREE nursing.
- c) Staff nurses included in the study are those who are willing to participate in the study.
- d) Staff nurses who have minimum 4 months of working experience.
- e) Staff nurses those who are present during the time of study.

#### Exclusion criteria:

- a) Staff nurses who have less than 4 months experience.
- b) Staff nurses who are not willing to participate.
- c) Those who are not present during the time of study.

### TOOLS FOR DATA COLLECTION

The research tool used is Questionnaire with Multiple Choice Questions.

for finding the knowledge of selected emergency drugs among staff nurses.

The Questionnaire with Multiple Choice Questions is divided into:

- Section 1- Demographic data which consists of age, sex, professional qualification, years of experience as a staff nurse and working area.
- Section 2- It consist of 30 multiple choice questions. It covers nurses knowledge on selected emergency drugs about actions, side effects and nurses responsibility. Each correct answer carries one mark. Actual duration for completing the questionnaire was about 20 minutes.

### DATA ANALYSIS PLAN

Plan for data analysis:

A research study is no better than the quality of the analysis. Plans for the interpretation of data must be made prior to the collection process and should include the formats to be used in the presentation of the data. The method used in analyzing the data is a prime factor in the interpretative process.

Descriptive statistics: Descriptive techniques include measures of central tendency such as mean and measures of variability such as standard deviation, frequency and percentage.

Inferential statistics: The inferential statistics used in this study is Chi-Square test .

The data was analyzed using the frequency and percentage.

### **1.1 Age wise distribution of sample**

- **INTERPRETATION:**

The distribution of sample according to age group, all subjects were above age of 20

- The highest number 83% of samples belonged to the age group 20-30 years.
- The lowest number 4% of samples belonged to the age group above 40 years.

### **1.2 Sex wise distribution of sample**

- **INTERPRETATION:**

The distribution of sample according to sex wise, the female sex group is more knowledgeable in number (80% ) as compared to male sex group (20% ).

### **1.3 Distribution of sample as per educational level**

- **INTERPRETATION:**

**The distribution of sample according to educational level.**

- The highest number of sample group is 45% i.e GNM.
- The lower number of sample is 15% i.e ANM & BSc.

### **1.4 Distribution of sample according to working area**

- **INTERPRETATION:**

**The distribution of sample according to working area.**

- The highest number of sample is 52% i.e General Ward
- The lowest number of sample is 15% i.e Emergency Unit

### **1.5 Distribution of sample according to work experience.**

- **INTERPRETATION:**

**The distribution of sample according to working experience.**

- The highest number of sample is 45% i.e working experience of more than 1 year.
- The lowest number of sample is 22% i.e working experience of less than 6 months.

### **2.1 AGE VS TOTAL SCORE**

- **INTERPRETATION:**

- The age group of 20-30 years responded correctly to maximum questions.
- The age group of above 40 years responded correctly to minimum questions.

### **2.2 Gender vs total score**

- **INTERPRETATION:**
- The female gender group is more knowledgeable than male gender group.

### 2.3 Education Vs Total Score

The p value as 0.009 which is significant.

### 2.4 Experience (In Years) Vs Total Score

The nursing staffs having more than 1 year experience is more knowledgeable than the others.

### 2.5 Unit Vs Total Score

The p value is 0.143 which is not significant.

### 3.1 Action, Effect And Knowledge

#### **Interpretation:**

On an average they have good knowledge about action, side-effect & nursing responsibilities

## **5. CONCLUSION**

**The nursing staffs having more than 1 year experience is more knowledgeable than the others.** In spite of tremendous advancement in knowledge and technology in effective patient care, the staff nurses are lacking in knowledge in relation to administration of selected emergency drugs.

The results of the study support our assumption of enhancing staff nurses knowledge on administration of drugs and reducing medication errors.

We were able to analyse the data and to gain insight in the awareness of knowledge of the staff nurses regarding selected emergency drugs.

## **6. SUGGESTION AND RECOMMENDATION**

### **1. NURSING EDUCATION :**

a) World Health Day (7th April ) could be celebrated as a health education day by nursing personnel by providing education to the hospital personnel regarding medication administration.

b) Staff should be well prepared on the theoretical aspects and demonstration of medication administration during their clinical hours.

### **2. NURSING SERVICE :**

a) Periodic refresher courses like an in-service education programmed should be conducted by the various institutions for the staff nurses.

b) Duty rotation should be prepared in such a way that every one has equal clinical postings.

### **3. GENERAL EDUCATION :**

a) Staff nurses should have the basic knowledge about medication administration

## . RESEARCH :

- a) A research study may be carried out on the various factors obstructing the practices of medication administration.
- b) A comparative study can be done on the "Knowledge in relation to medication administration" of staff nurses working in different hospitals.

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